

REMARKS

By Office Action mailed December 1, 2004, pending claims 3-19 stand withdrawn and pending claims 1-2 and 20-52 stand rejected, reconsideration of which is respectfully requested in view of the above amendments and following remarks. Claim 1 has been amended. Claims 1-52 are now pending, of which claims 3-19 stand withdrawn.

Election of Species

With respect to the matrix metalloproteinase inhibitors of the present invention, Applicant hereby affirms the election of the species of MDI Complex, disclosed on page 11, line 27, of the specification, for purpose of initial examination only. Claims 1-2, 20-21, 23 and 24-52 are generic to this species, while claim 22 reads thereon.

Rejections Under 35 U.S.C. §103(a)

Claims 1-2 and 20-52 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Pallenberg et al. (U.S. Patent No. 5,538,945), Pickart (U.S. Patent No. 4,760,051), Dupont et al. (U.S. Patent Application Publication No. 2003/0087830), Kelly ("The Role of Glucosamine Sulfate and Chondroitin Sulfates in the Treatment of Degenerative Joint Disease", *Alternative Medicine Review* 3:1 27-39 (1998)) and Atrium Biotechnologies (product information brochure) for the reasons set forth on pages 3-5 of the Office Action.

More specifically, the Examiner states that Pallenberg and Pickart disclose the peptide copper complexes of the present invention, and the use of such complexes for the treatment of hair loss and wound healing, respectively. However, the Examiner recognizes that neither Pallenberg nor Pickart teach the combination of such complexes with a metalloproteinase inhibitor, as recited in the pending claims. Accordingly, the Examiner relies upon Dupont to cure this deficiency. In this regard, the Examiner is of the opinion that Dupont teaches peptide copper complexes, such as GHK:Cu, in the presence of cartilage extract from shark for the treatment of wounds. Kelly and Atrium Biotechnologies are relied upon as teaching that such cartilage extracts, including MDI Complex, consist of glycosaminoglycans. In view of the foregoing, the Examiner concludes that it would have been obvious to modify the compositions

of Pallenberg by the inclusion of glycosaminoglycans derived from fish or shark cartilage, as taught by Dupont.

Applicant respectfully disagrees with the Examiner's application of Dupont. Dupont teaches the use of anti-angiogenic peptide copper complexes having two amino acid units extracted from shark cartilage for the treatment of angiogenesis-dependent diseases (*see*, for example, paragraphs [0001] and [0021-0022] of Dupont). As noted in paragraph [0173] of Dupont, such anti-angiogenic complexes may be further combined with anti-angiogenic shark cartilage extract to yield an "enriched" composition (*i.e.*, a composition having enhanced anti-angiogenic properties).

In contrast to Dupont, the present application is directed to compositions comprising angiogenic peptide copper complexes, such as angiogenic tripeptide copper complexes. As noted in the Examples on pages 25-28 of the present application, the angiogenic properties of these tripeptide copper complexes work synergistically with the protease inhibitory activity of the metalloproteinase inhibitor in the claimed composition. Accordingly, in order to further clarify this aspect of the present invention, Applicant has amended pending independent claim 1 to specify that the at least one peptide copper complex of the claimed composition "comprises at least three amino acid units". Support for this amendment may be found generally throughout the specification and, in particular, at pages 19, lines 7-23, which describes representative tripeptide copper complexes.

Contrary to the Examiner's assertion, the anti-angiogenic complexes of Dupont do not include the tripeptide copper complexes, such as GHK:Cu, of the present invention and disclosed in Pallenberg and Pickart. In fact, the passage in Dupont cited by the Examiner in the Office Action (paragraph [0015]) specifically states that tripeptide copper complexes such as GHK:Cu are angiogenic, not anti-angiogenic. Accordingly, Applicant submits that it would not have been obvious to one of ordinary skill in the art to modify, nor would one of ordinary skill in the art have been motivated to modify, the angiogenic tripeptide complexes of Pallenberg and Pickart in the same manner as the anti-angiogenic dipeptide complexes of Dupont to yield the compositions of the present invention.


In view of the foregoing, Applicant submits that none of the references cited by the Examiner, alone or in any motivated combination, contain any teaching, suggestion or motivation to modify the compositions disclosed therein in order to produce the claimed compositions of the present invention. Accordingly, Applicant submits that the cited references fail to establish a *prima facie* case of obviousness against claims 1-2 and 20-52, and request that this ground of rejection be withdrawn.

In view of the above amendments and remarks, allowance of the pending claims is respectfully requested. A good faith effort has been made to place this application in condition for allowance. However, should any further issue require attention prior to allowance, the Examiner is requested to contact the undersigned at (206) 622-4900 to resolve the same. Furthermore, the Commissioner is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,

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